JoAnne Maenpaa, K9JKM

AMSAT OPPORTUNITIES FOR COMMUNICATIONS INTEROPERABILITY

ADVANCED COMMUNICATION PACKAGE

- Multi-channel, multi-mode, multi-user digital uplink and downlink to support:
  - Digital messaging
  - Voice
  - Video
  - 5650-5670 MHz uplink
  - 3400-3410 MHz downlink
  - Transceiver and 60 cm dish package designed to be attainable by the average amateur radio operator
  - Dish aimed at a fixed point in the sky
  - Deployable to disaster zone

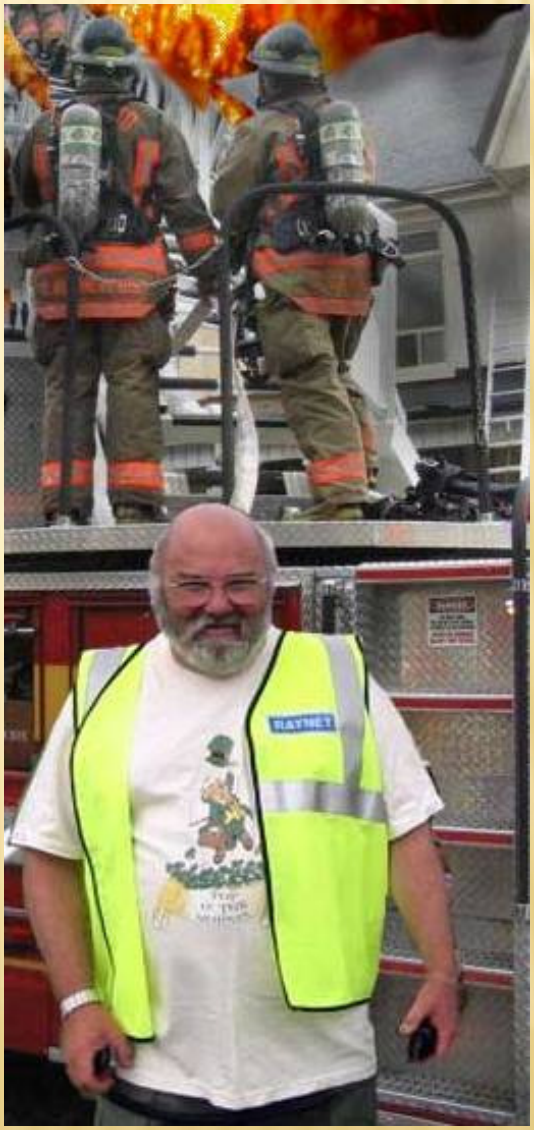
NEED TO BUILD A MISSION …

- $7 million estimated for Eagle/Phase IV launch
- We need to define and build a mission that excites potential funding sources.
- Eagle/Phase IV provides unprecedented opportunity to expand and support amateur radio emergency communications.
- Educational mission.

BUILDING A COMMUNICATIONS MISSION

- Some question the viability, appropriateness, or practicality of seeking government funding for AMSAT projects.
- Large scale disaster response will be based on federal resources:
  - Dept. of Homeland Security
  - Federal Emergency Management Agency
- Local government cannot fund $7 million

HOW DO THE PRO'S SEE YOU?



HOW DO THE PRO'S SEE YOU?

Those guys are untrained!

Don't have the right equipment!

The yellow vest fella THINKS he's the Chief!

I really don't want to rescue another victim!

DISASTER RESPONSE HAD SIMILAR ISSUES

- Initial response locally
- Additional resources needed to support full scope of the disaster
  - They don't work the way we do!
  - They don't know how to use our equipment!
  - Do I listen to their chief or our chief?
  - Do they really know what the heck they are doing?
- **Our radios can't talk to them!**

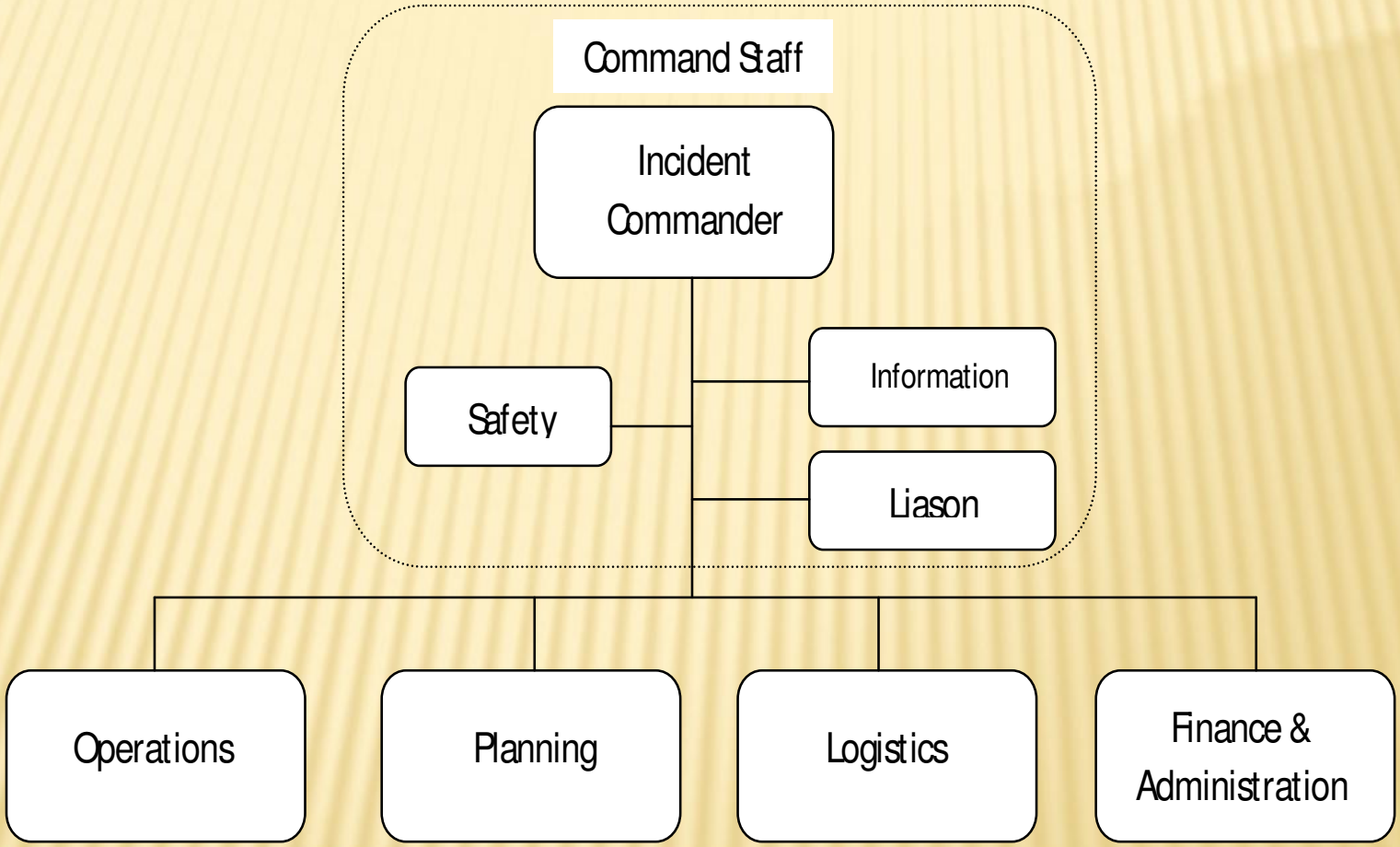
SPEAK LIKE A CHIEF … ICS … SECTION …

- Incident Command/Unified Command
- Language of the professional community
- Management level understands where our satellite and amateur radio operators fit into their plan.
- Responder level understands why we are there.
- Amateur radio operators understand how we fit in.
- The guy with the checkbook knows what we are talking about.

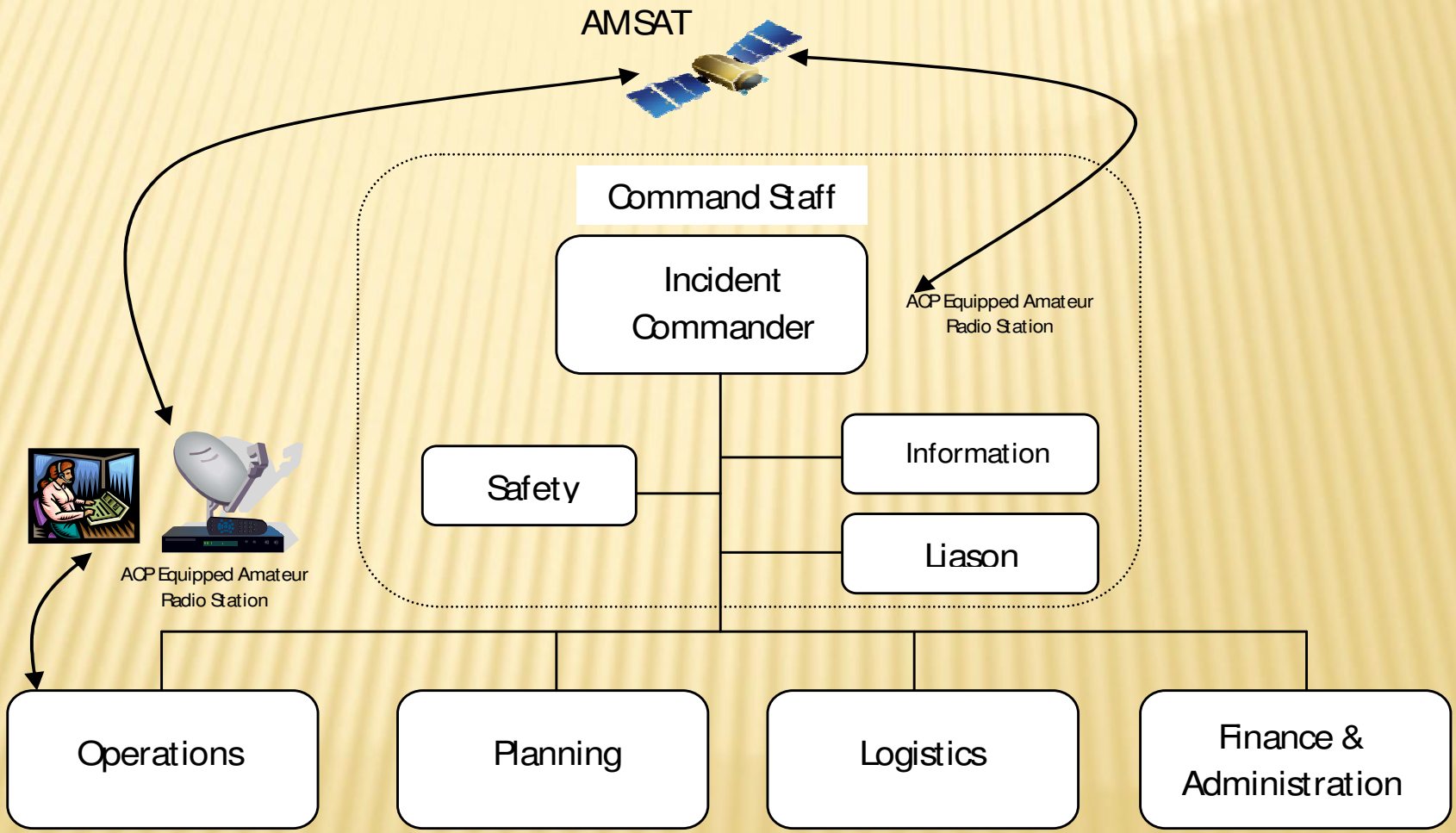
INCIDENT COMMAND SYSTEM

- Many inter-agency issues are addressed:
- Manageable span of control.
- Uniform organizational structure.
- Catalog of emergency response capability.
- Every one is trained the same way.
- Meet and speak before disaster response is necessary.
- Response pre-planned to best capability.

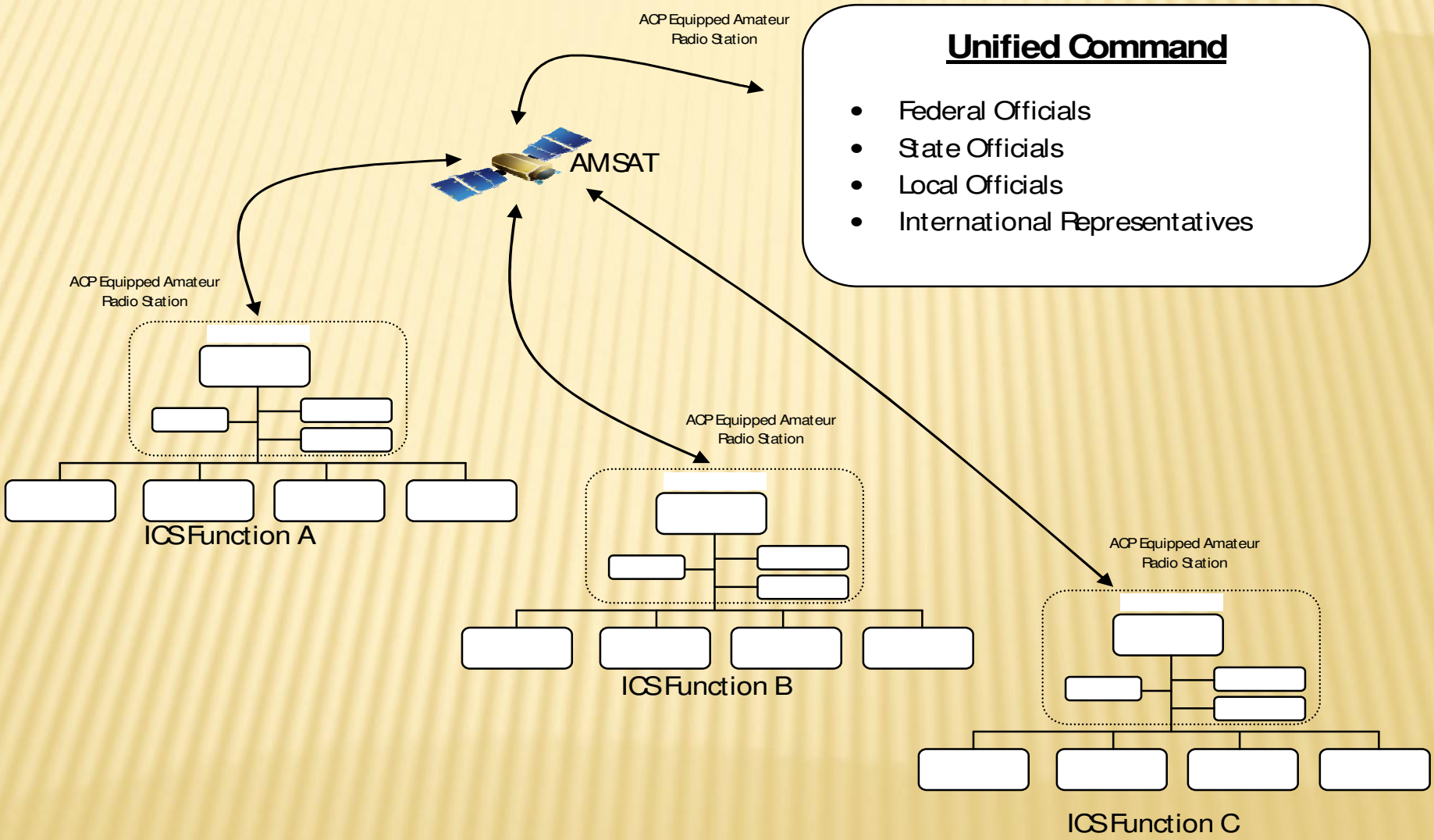
INCIDENT COMMAND SYSTEM



APPLICATION NOTE: ACP TIES REMOTE SECTIONS

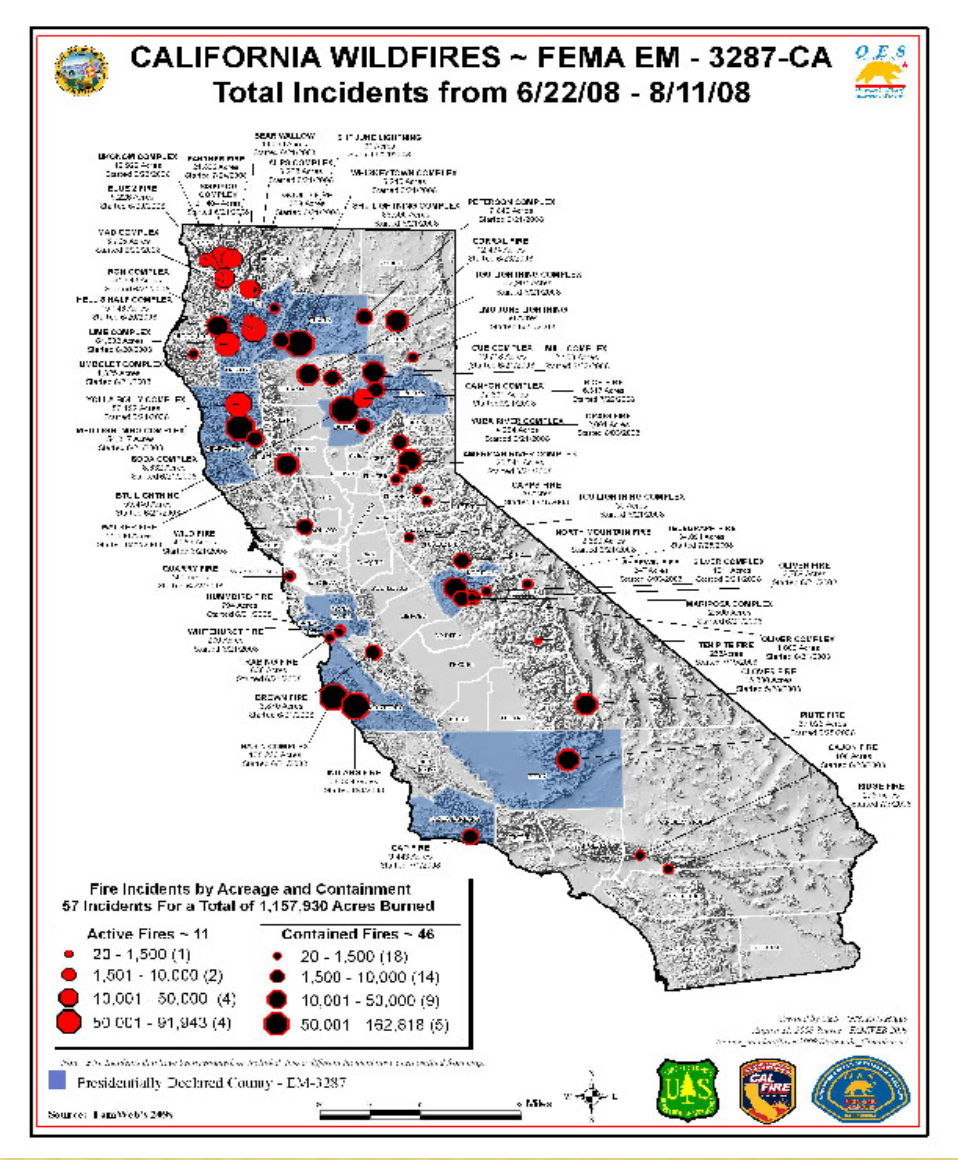


EXAMPLE: EXPANDING RESPONSE

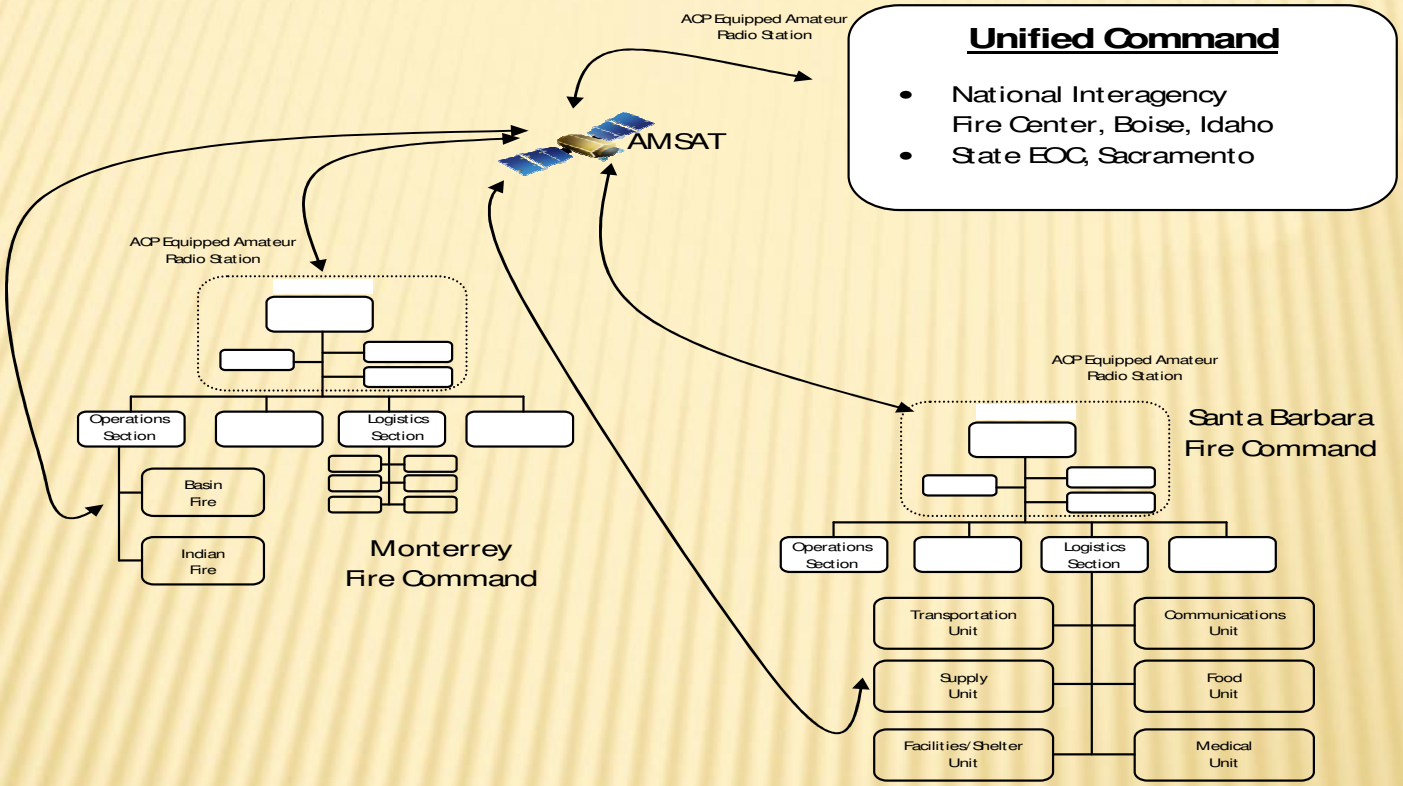


JULY 2008 CALIFORNIA WILDFIRES

- June/July 2008 included more than 2,000 fires burning 887,000 acres.
- 301 fire trucks
- 12 fixed-wing aircraft
- 50 helicopters
- More than 3,500 personnel
- NASA drone
- 12 counties declared a state of emergency
- FEMA funding $31 million
- American Red Cross provided 300,000+ meals (46 fixed/63 mobile feeding centers)
- 30,000+ overnight shelter stays
- 10,000+ Red Cross Staff and Red Cross Volunteer workers


CALIFORNIA WILDFIRES ~ FEMA EM - 3287-CA
Total Incidents from 6/22/08 - 8/11/08
Fire Incidents by Acreage and Containment
57 Incidents For a Total of 1,157,930 Acres Burned
Active Fires ~ 11
20 - 1,500 (1)
1,501 - 10,000 (2)
10,001 - 50,000 (4)
50,001 - 91,943 (4)
Contained Fires ~ 46
20 - 1,500 (18)
1,500 - 10,000 (14)
10,001 - 50,000 (9)
50,001 - 162,818 (5)
Presidentially Declared County - EM-3287

APPLICATION NOTE: TIE FIRE COMMAND COMMUNICATIONS



NATIONAL INCIDENT MANAGEMENT SYSTEM

- Chemical Emergency
- Dam Failure
- Earthquake
- Flood
- Hazardous Materials
- Heat
- Hurricane
- Landslide
- Nuclear Power Incident
- Terrorism
- Severe Thunderstorm
- Tornado
- Tsunami
- Volcano
- Winter Storm
- Wild Fire

SHORT TERM PLANS

- Demonstrate ACP operations on ground based platforms.
- Identify disaster response agencies likely to benefit from AMSAT satellite communications.
- Identify and plan additional disaster scenarios to show a broad spectrum of our response capability.
- Get the AMSAT word out! Magazine articles, presentations, etc.

LONG TERM PLANS

- AMSAT team completes the ACP design
- Define level of support to transport internet-like traffic?
- Define level of support to transport public safety streams – APCO P25, etc.
- Launch and deploy
- Integrate ACP into disaster operations – FEMA, Red Cross, Hurricane Watch, NTS, SATERN, RACES